HOMEBREW HEROES

Jaguar - 2600 - Super Nintendo - Mega Drive - 5200 - Intellivision - Vectrex - Lynx - NES - 7800 - Dreamcast & more!

Keeping you in the loop with all things retro!

TOP 10 HOMEBREW GAMES

ON ALL MAJOR CONSOLES

DIY COMPUTING

Become a engineer in your own bedroom

WE tell you how!

SPECIAL FEATURES

We take a trip down memory lane with the Atari ST and Commodore Amiga demo scene and celebrate the best art to grace an 8-bit computer

DEVELOPER INTERVIEWS

We speak with all the top Developers and find out what inspired them become

Homebrew Heroes

HOMEBREW HAS NEVER BEING SO COOL!

100% Vintage Gaming Coverage

COLLECTORS EDITION

A GREYFOX - COVER DESIGN

RVG PUBLISHING

ISBN 0-333-99093-5

9 780333 990933

HOMEBREW HEROES

Keeping you in the loop with all things retro!

Retro Video Gamer is a proud and informative gaming community

RVG

RETRO VIDEO GAMER

- Forum - Live Chat Box - Arcade -
- Reviews - Interviews - Music Jukebox -
- Homebrew Reviews - Console Reviews -
- Arcade Video Vault - Much More...

JOIN TODAY !

WWW.RETROVIDEOGAMER.CO.UK

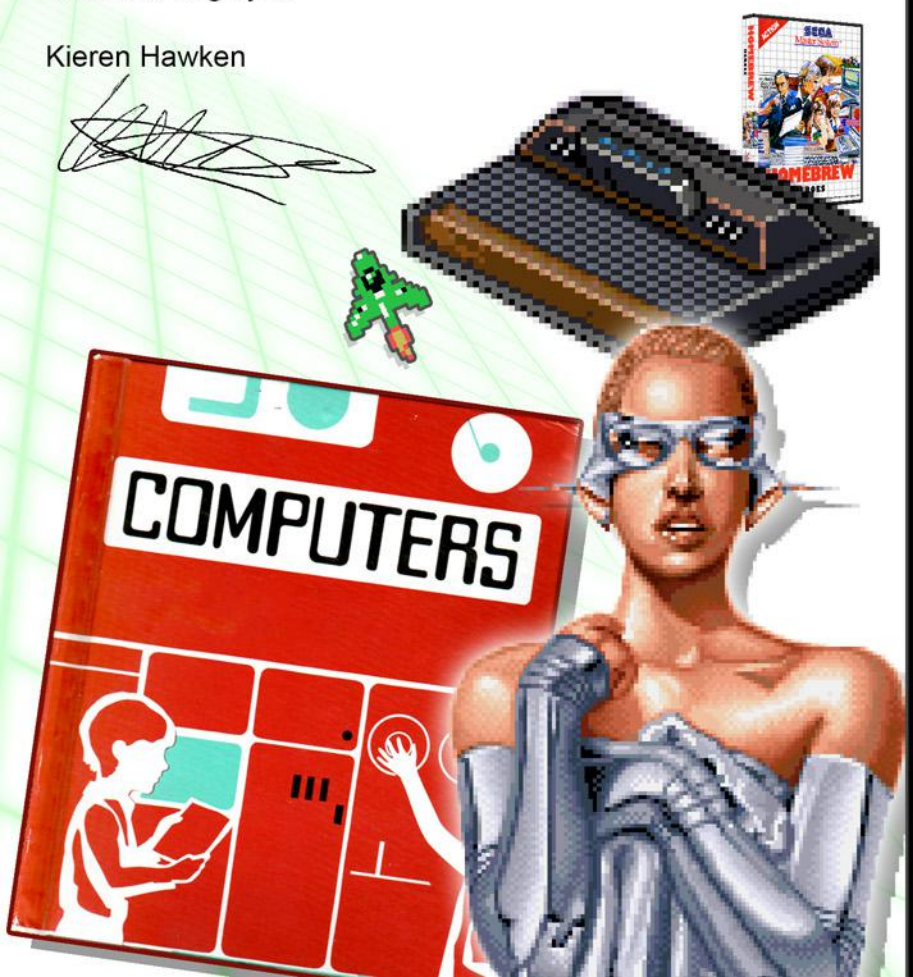
EDITORIAL

So what is homebrew? For some people they immediately think of a bespectacled geek hammering away at the keyboard of his rubber key Spectrum typing in a program in BASIC. It's fair to say that is probably how it all started but homebrew has become so much more than that. In fact the scene has grown so much and become so professional that some people now find the term "homebrew" to be offensive, like it's somehow a derogatory term! Well here at Homebrew Heroes we look at it very differently and want to celebrate the whole world of homebrew. From the one-man team making a game for his favourite console in his spare time to the professional teams of indie developers producing boxed retail quality releases. Homebrew is about giving retro consoles and computers a new life and keeping them alive for everyone to enjoy.

The world of homebrew is more than just about games though, there are also people producing fantastic demos, writing amazing music and producing stunning art that continues to push these old machines to their limits. The homebrew scene has really exploded over the last few years and when we first envisaged this project over at Retro Video Gamer Forum we almost didn't know where to start! In the end we settled for looking at games from the consoles and the art and demo scene from home computers. This gave us a diverse look at as many machines as possible and will hopefully help you explore the homebrew scene like never before.

Homebrew Heroes was a real labour of love for all involved from the first paragraph written to the last screenshot laid down. We hope that you enjoy reading Homebrew Heroes as much as we enjoyed writing it and keep supporting the scene. There is life in these old dogs yet!

Kieren Hawken



Kieren Hawken
Editor in Chief

HOMEBREW HEROES MAGAZINE

Magazine Editor in Chief
Kieren Hawken

Graphic Design & Layout
Darren Doyle

Sub Editor
Eugenio Angueira

Magazine Concept
Darren Doyle & Kieren Hawken

Article Contributors
Eugenio Angueira, Ed Burns, Darren Doyle, Kieren Hawken, Carl Attrill, Thomas Hughes and Antony Vidler.

Special Thanks to
Jamie Battison

Homebrew Heroes © 2013 RVG Publishing. This publication may not be copied or reproduced either in full or part without full permission of the copyright holders.

RVG Publishing fully acknowledge the copyrights and trademarks of all relevant parties involved in the production of this publication.

Contact:
Website: www.retrovideogamer.co.uk
Email: kierenhawken@retrovideogamer.co.uk

RVG PUBLISHING

VISIT US AT
WWW.RETROVIDEOGAMER.CO.UK

ATARI 7800

We Re-Invented The Video Game

Only pro gamers need apply!

The Atari 7800 ProSystem was supposed to be the system that turned around the fortunes of Atari but the take over of the company caused the release to be delayed by 2 years and let the NES steal the lucrative North American market. Fast forward to the present day and we are finally beginning to see what this brilliant machine was truly capable of.

The Atari 7800 ProSystem (to use its full name) has to be the biggest ever case of "what could have been" in video game history. The system came about off the back of the failed Atari 5200 SuperSystem. Consumers were annoyed by the 5200 because it was not backwards compatible with the 2600, was high in price, huge in size and had terrible analogue controllers that broke too easily. The main reason for this was that it was basically an Atari 400 computer in a console case and this was also a bone of contention as most of the games were just ported over. The 5200 was one of the many causes of the great video game crash in North America and never even saw a release in the UK, Europe or any other parts of the world making it the only Atari machine not to cross the ocean. Atari knew they had to act quickly if they were going to save their reputation and for the first time they turned to an outside company for help.

General Computer Corporation, or GCC for short, started out making mod-kits for existing arcade games such as Super Missile Attack, which was sold as an enhancement board to Atari's Missile Command and Crazy Otto that was later sold to Midway and became Ms. Pacman. Atari sued promptly sued them but then dropped the suit and hired GCC to develop games for Atari after being suitably impressed by their work. Their biggest hit in the arcades was the brilliant Food Fight but it would be their development of the Atari 7800 that they would become best known for. The 7800 was developed to be completely backwards compatible with the best selling Atari 2600 VCS and this was both a blessing and curse. The inclusion of the 2600 chips on the board gave it perfect compatibility but also left no room for a sound chip and meant that the 7800 was stuck using the dated 2-channel TIA chip for this

TECHNICAL SPECIFICATIONS
CPU: Atari SALLY 6502C clocked at 1.79 MHz
INPUT: 2 Button joystick or joypad, light gun and trackball
MAXIMUM SCREEN RESOLUTION: 160×240, 320×240 (160×288 / 320×288 if PAL)
GRAPHICS: Custom MARIA chip at 7.16 MHz with direct memory access (DMA)
COLOURS: 25 on-screen out of a possible 256
SOUND: 2 Channel TIA chip, 4-bit volume control register
RAM: 4k RAM with a 4k BIOS ROM
ROM: Cartridges up to 48k in size, more possible with bank switching
EXPANSION: Full Atari 2600 compatibility as standard, High Score Cartridge, 7800 Expansion Module
ATARI
ERRES

Extreme Home Computing

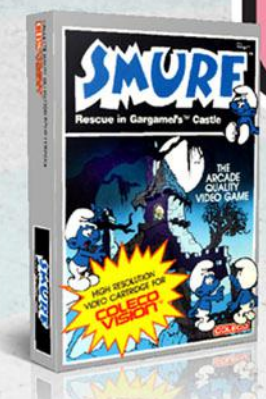
A history of home build computer systems by Carl Attrill

Christmas 1986, I am monopolising the house television set to play my brand new ZX Spectrum, fast forward to 2013 and I finally starting to understand how that box of tricks worked by building my own 8-Bit computer. Sitting there soldering away it struck me that millions of people have faced these challenges. Many even had the original thought and had to invent it, so how was it that I, with no prior experience or qualifications in computing, was now able to build my very own computer? I couldn't be unique in this, so I wanted to find out how people got on with early computer kits and find out how they evolved. We speak to early users of computer kits and people that still produce kits to this very day and find out that the challenges to build a simple system today are fraught ..... with licensing to corporations. Ever tried to get your computer to do something that you want it to do but it just can't? That's limitation! People have to put up with it and wait for a patch or find some compromise to achieve the desired outcome - that's innovation. It's a feeling the pioneers of home computing experienced over 40 years ago with no TV display and just 20 buttons to play with! So why do we have radio enthusiasts to thank for home computers? Did pricing of early systems give birth to the British home computer industry? Was the first game written on a home computer really for a 16-bit machine? And Can we still build an 8-bitter today?

BONUS!
HOMEBREW
HEROES
CARTRIDGE
INCLUDED

COLECO VISION

THE ARCADE QUALITY VIDEO GAME SYSTEM



ColecoVision – Your Vision is Our Vision!

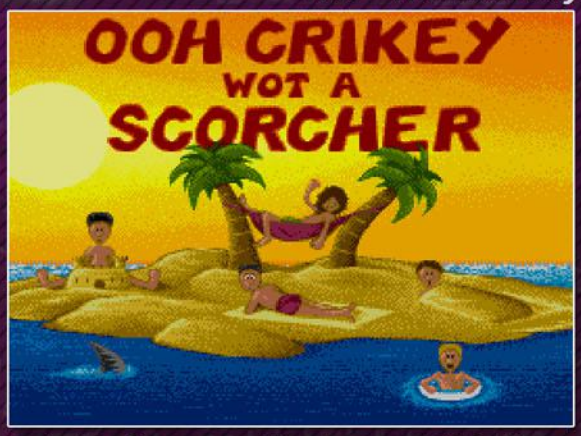
Let's take a look at the console that revolutionised the home video game experience with arcade-quality graphics and gameplay and a design that allowed for impressive hardware expansion.

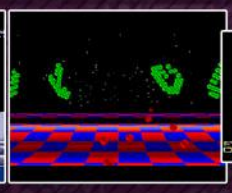
In August 1982, home video gaming was changed forever with the introduction of Coleco Industries' ColecoVision console (marketed by CBS Electronics outside the United States and branded as the CBS ColecoVision). This new game system was designed to challenge the king of gaming at the time, the Atari 2600, by recreating a true arcade experience right at home. This was accomplished by reproducing almost arcade-perfect graphics and sounds which was clearly demonstrated with the pack-in game for the console: Donkey Kong. Along with Donkey Kong,, there were 11 other titles at launch (with 10 more promised) and by the end of the console's run, some 150 games had been released. The inclusion of Donkey Kong as the pack-in title made the ColecoVision a highly popular console at the time. By December of 1982, Coleco had sold over half a million units and by the end of the run in October 1985 a total of 6 million systems had been sold.

The ColecoVision was specially designed to allow for expansion modules to be attached to the console through a port on the front of each unit. The modules enhanced the capabilities of the console in different ways. Expansion Module #1 gave the ColecoVision the ability to play Atari 2600 games and allowed it to play an expanded library of games (perhaps one of the largest software libraries at the time between its original titles and the 2600 games). Though these sold well, they did lead to an unsuccessful lawsuit by Atari. Expansion Module #2, or the driving controller, included a steering wheel and gas pedal and was packaged with Coleco's port of the racing game Turbo. Expansion Module #3 converted the ColecoVision into the Adam, a computer with its keyboard, printer, and cassette drives. Expansion Module #4 was actually called the Roller Controller and it was a trackball controller which was packaged with the game Slither. Lastly, the Super Action Controller set included two specially designed joysticks.

Ooh Crikey Wot a Scorcher

TLB - The Lost Boys



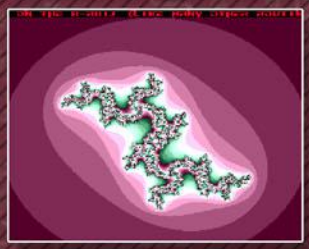


Coded by Oxygene - Hawkmoon - Digital Insanity - Sprog - Manikin
Gfx by Spaz - Tyrem -
Music by Jochen Hippel (Mad Max)

The Lost Boys dominated the U.K. demo scene back in 1991 with quality demos one after another. This demo features the amazing coding talent of Manikin (Tim Moss) with additional coding help from Digital Insanity that was complimented with incredible graphics by Spaz (David Moss). Ooh Crikey Wot a Scorcher was a brilliant multi-part demo that had you involved in flying a spaceship to different locations on a map and landing your craft at each port of call. Each of these was represented by a great demo screen and of course back in those days there was only gonna be one persons music used in demos of this standard and that was Mad Max (Jochen Hippel), his music was everywhere at the time. It has to be said that "Ooh Crikey Wot a Scorcher" is one of those demos that has to be seen before you die!

Punish Your Machine

By The Demo Scene collective(too many to list)



Coded by New Mode - Big Alec - Icaruz - Abel - Kasper - Mr. Bee - Fury - DTX Synchron - Vulcan - Flix - Ric Nucleus - Bouldog - Major Fatal - Illegal Exception - Chaos Inc
Graphics by Slime - Big Alec -Thor -Malmqvist
Music by Lap - Mad Max - Big Alec - Synergy

Where do you start with such a big demo? "Punish Your Machine" was a collective of demo scene groups united to create the mother of all demos for the Atari ST in 1991. There was so much happening with the ST's demo scene at the time with new routines been created by the many talented programmers and musicians and artists. They ultimately pushed the limits of the 16-bit mammoth and this demo was proof of this. With the likes of Delta Force, New Mode, Chaos Inc and Illegal Exception involved they really were punishing the machine, but in a good way. This demo also came on 2 disks and contained about 40 minutes of beautiful chip music to listen to, great stuff.

LONG
LIVE THE
DEMO
SCENE

FIgnition

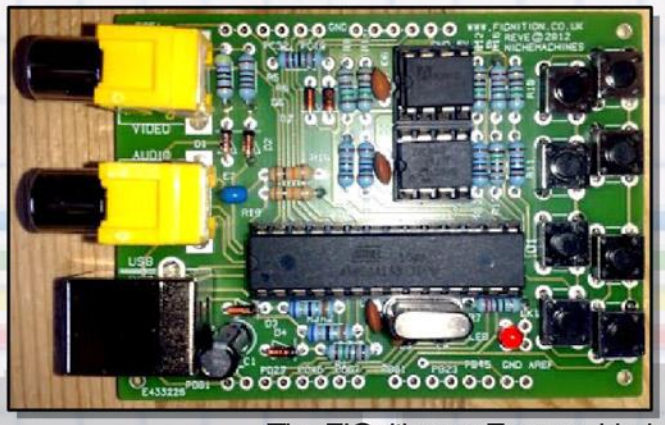
BUILD YOUR OWN 8-BIT COMPUTER

Once more Carl Attrill delves into the world of DIY computing as he tells you how to build your own 8-bit home computer in the form the brilliant FIGnition

History tells us that the first adopters of home computing had all the fun, building and then taming their mail ordered MK14s, ZX80s and ZX81s. Getting around any limitations with what they could find in their boxes of bits and soldering on extras to improve the performance.

Back last year I hit the internet in search of a project that would allow me to build an 8-bit computer, my search led me to the FIGnition, a build it yourself 8-bit computer for just £20! My kit quickly arrived and the 41 components were easily soldered together. The PCB is slightly larger than a credit card and very compact but still allows enough space in between the components for users to get their soldering irons to it without any major disaster. The assembly time can be as long as you like, I have had some practice of soldering, and took me two hours from start to finish.

So how can it be so small and still be a complete computer? The innovation of an eight-button keyboard that is soldered directly on to the PCB is the method of data input. By pressing one or two keys in a specified order, like chords on a musical instrument, you can get all the characters needed to programme your computer. It takes a little getting used to, but it's quicker than texting when you are fully aquatinted with the layout. If you want to add a PS2 keyboard to it there is an interface you can build with an Arduino shield, if you want to alter it in any other way, then go for it as it's open source and patent free! The visual output is two colours Black and white 24 x 25 screen, and the character set is based on the Sinclair Spectrum's that is easy on the eye.



The FIGnition revE assembled

So it's a DIY 8-bit computer, like the ones in the early eighties, and so surely it has to evolve and improve at the same rate as those early computers. A sound circuit has been developed by the community and now it boasts sound output via your TV set too! Like the Sinclair computers, the audio out is in fact audio in too so the FIGnition should someday support audio boot loading. With things evolving all the time it won't be long until you can "press play" on tape!. So on to the Programming, do you remember a computer called the Jupiter Ace? It boasted that its programming language FORTH was so good, that one you used it you would never go back to BASIC. The mechanics of the language can fill manuals, much like BASIC, but in essence its similar to leaning a foreign language. The words seem to go the opposite way round and the trick is to get your procedures compiled and then the final procedure should run the commands in the right order. The alternative way of getting data into the

THE 8-BIT COMPUTER Art Gallery

Computers weren't simply for playing games on, they could also produce some of the best digital artwork to grace any system. Homebrew Heroes checks out some of the very best on the ZX Spectrum, Atari 8-bit & the Commodore 64

25 YEARS OF YIE AR KUNG FU
ARTIST:VETO OF ARSENIC, OXYRON

ANOTHER BEGINNING
ARTIST:OFFENCE [WEB], PROSONIX

Dreamcast

I have a dream, I have a Dreamcast!

The Dreamcast was the last ever machine to be produced by Sega but its legacy lives on today with one of the most active homebrew scenes of any console out there. Kieren Hawken takes a look its illustrious history.

The Dreamcast is the newest system featured in this publication, but one we felt that we just couldn't exclude. While we tried to keep things strictly retro we just couldn't ignore Sega's last ever console with its vibrant homebrew scene that includes independent commercial releases that rival the retail games released for the machine back in the day. But before we delve into this library of delight to pick out 10 of the best we will take a brief look at the history of this wonderful little machine.

After the failure of their Saturn console, against the unstoppable might of the Sony PlayStation, Sega wanted to get back into the game as soon as possible. So just 3 years after the release of the Saturn their new console, the Dreamcast, hit Japanese stores in November 1998 with the North American and European release just under a year later. The machine was initially very well received and in fact broke sales records for a new console. In the US alone a record 300,000 units had been pre-ordered and Sega sold 500,000 consoles in just two weeks, which included selling a record 225,132 units during the first 24 hours. In fact the machine was so popular that Sega suffered massive stock shortages and was unable to keep up with both pre-orders and retail demand for the console. However the success was sadly short lived thanks to Sony and their announcement of their new PlayStation 2. Surrounded by an ocean of hype and misleading marketing by Sony, as well as the genius of including DVD playback as standard, the PS2 almost killed the Dreamcast over night when it was released onto the market. On January 31, 2001 Sega announced that they were discontinuing Dreamcast production by March of that year. This was exactly 1 year after the worldwide launch of the PS2, showing just how quickly the machine met its demise. It would be simplistic to lay the blame of the Dreamcast's ultimate failure solely at the feet of Sony, rampant piracy and EA's decision not to support the console certainly didn't help, but arguably the biggest nail in the coffin. Despite this early death the console continued to be supported by Sega up until 2004 and the last official 3rd party release came as late as 2007.

The Dreamcast brought several firsts to the world of console gaming. The most notable of these was online play. All models were shipped with dial-up modem allowing users to browse the net and play games online via dedicated server such as SegaNet or Dream Arena in Europe. These were a precursor to services such as PS2 Network and Xbox Live. ChuChu Rocket was Sonic Team's first online multi-player game and shipped with the machine, while Alien Front Online was the first online console game to feature live in-game voice chat. It was also the first service to feature downloadable content (DLC) for games such as Phantasy Star Online, Skies of Arcadia and Samba De Amigo. The regular 56k modem could be replaced with the Dreamcast Broadband Adapter that was sold separately. This upgraded the dial-up connection to high-speed broadband capability and games such as Phantasy Star Online are still supported by servers today! Another important feature of the Dreamcast was the VGA adapter, allowing Dreamcast games to be played on monitors or HD TVs in 480p. A special link cable was also produced allowing the Dreamcast to interact with the Neo Geo Pocket Color handheld. Unfortunately SNK's machine was never very popular meaning very few games took advantage of this feature. The last feature of the machine that must be mentioned is the revolutionary VMU memory cards. These plugged into the back of the controllers and had a small screen that provided a variety of functions that even included special mini-games.

It was actually one of the Dreamcast's biggest flaws that led to the whole creation of the homebrew scene on the machine. Early Dreamcasts had no copy protection and so could play games on CDr without any problem. While this was corrected on later units, the simple use of a boot disc bypassed any protection and allowed you to insert a standard CD afterwards. Another big advantage of the Dreamcast when it came to homebrew was the operating system was always supplied on the actual disc. One of the OS options developed for the machine was a special version of Microsoft's Windows CE operating system. This meant that it was very easy to port existing PC Windows based games over to the machine leading to many Dreamcast releases of open source PC games such as Tyrian, Doom, Hexen and Another World. Several big teams continue to support the Dreamcast (such as Red Spot Games, Senile Team and NG:DEV.TEAM) with commercial quality releases that come with profes-sional packaging and even special collectors editions. **HH**

SEGA Dreamcast Techical Specs

CPU: 32-BIT HITACHI SH-4 RISC @ 200 MHZ

RAM: 16 MB 64-BIT 100 MHZ MAIN RAM, 8 MB 4X16-BIT 100 MHZ VIDEO RAM AND 2 MB 16-BIT 66 MHZ SOUND RAM

ROM: CD, 1.2 GB GD-ROM

GRAPHICS: 128-BIT VECTOR GRAPHICS ENGINE, 360 MIPS AND 1.4 GFLOPS (SINGLE PRECISION), USING THE VECTOR GRAPHICS ENGINE. THE GRAPHICS HARDWARE IS A POWERVR2 CLX2 CHIPSET, CAPABLE OF 7.0 MILLION POLYGONS/SECOND PEAK PERFORMANCE AND TRI-LINEAR FILTERING. GRAPHICS HARDWARE EFFECTS INCLUDE GOURAUD SHADING, Z-BUFFERING, SPATIAL ANTI-ALIASING, PER-PIXEL TRANSLUCENCY SORTING (ALSO KNOWN AS ORDER INDEPENDENT TRANSLUCENCY) AND BUMP MAPPING.

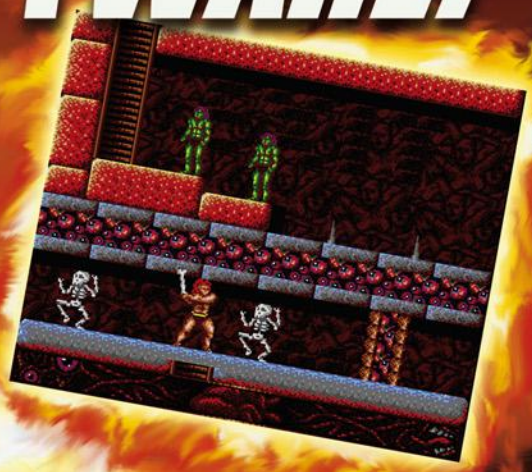
COLOURS: 16.78 MILLION COLOURS (24-BIT) COLOUR

RESOLUTION: INTERLACED OR PROGRESSIVE SCAN VIDEO @ 640 X 480

SOUND: YAMAHA AICA SOUND PROCESSOR WITH A 32-BIT ARM7 RISC CPU OPERATING AT 45 MHZ, 64 CHANNEL PCM/ADPCM SAMPLER (4:1 COMPRESSION), XG MIDI

Dreamcast Accessories

EXPLOSIVE SOFTWARE!

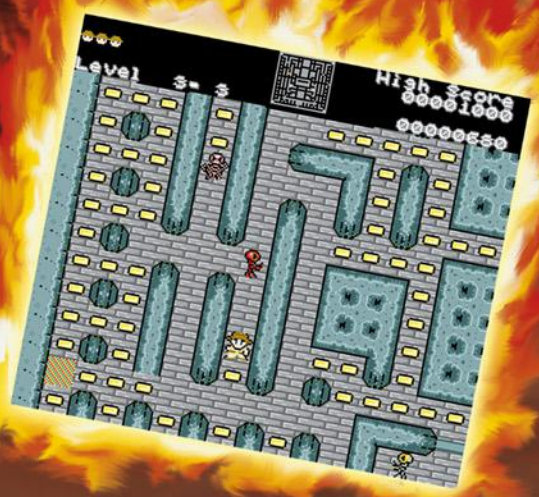


INSANITY
for TurboGrafx-16
& PC Engine

INFERNO
for MSX 2/2+

PYRAMID PLUNDER
for TurboGrafx-16
& PC Engine

ATLANTEAN
for TurboGrafx-16
& PC Engine



AETHERBYTE

WWW.AETHERBYTE.COM

VIDEO CAZETTE T-EX
Quality Graphic Design
VHS T-120
Magazine design & Layout
Bespoken Logo Design – Banners
COPY
VIDEO CASETTE
Rewind80
TO THE EIGHTIES
RETRO EXPERIENCE
WE DESIGN AROUND YOUR NEEDS
120
SUPER QUALITY
Motion Graphic Openers
Website Graphics
S-VIDEO HOME SYSTEM
CAZETTE T-120 VHS
Event Poster Design
Magazine Advertisements
and much much more
E-180
VHS Cassette
HQ
+15YEARS DESIGN EXPERIENCE
UrDesignHere
YOUR DESIGNING DONE YOUR WAY
T-120
VHS VIDEO CAZETTE
Call Us Today! Contact us at
dddi@eircom.net

LOVE YOUR ARCADE GAMES
COIN-OP
THE ARCADE GUIDE
ガイド
VIDEOGAME CLASSICS
PRESS START
COIN-OP
ガイド
THE ARCADE GUIDE

HOMEBREW HEROES

Jaguar - 2600 - Super Nintendo - Mega Drive - 5200 - Intellivision - Vectrex - Lynx - NES - 7800 - Dreamcast & more!

CELEBRATING THE WORLD OF HOMEBREW!

OUT NOW!!

WWW.HOMEBREWHEROES.CO.UK

HOMEBREW HEROES IS MORE THAN JUST A MAGAZINE, IT'S OVER 100 PAGES OF RETRO GOODNESS DEDICATED TO ALL THINGS HOMEBREW. INSIDE YOU WILL FIND THE TOP 10 HOMEBREW GAMES FOR NEAR ENOUGH EVERY RETRO CONSOLE OUT THERE FROM THE ATARI 2600 TO THE SEGA DREAMCAST AS WELL AS THE HISTORY OF EACH SYSTEM, TECH SPECS AND SCREENSHOTS. BUT THAT IS NOT ALL, NOT EVEN CLOSE, WE ALSO TELL YOU HOW TO BUILD YOUR OWN HOME COMPUTER AND SPEAK TO SOMEBODY WHO HAS. ALONGSIDE THIS WE BRING YOU THE HISTORY OF DIY HOME COMPUTING THROUGH THE AGES. WANT TO READ INTERVIEWS WITH HOMEBREW DEVELOPERS? WE HAVE THOSE FOR YOU TOO! THERE IS EVEN MORE FOR COMPUTER FANS THOUGH AS WE DISCOVER THE VERY BEST DEMOS FOR THE AMIGA AND ATARI ST AND LOOK AT THE BEST COMPUTER ART FOR THE COMMODORE 64, SPECTRUM AND ATARI XL/XE.

WE HOPE YOU HAVE ENJOY THE PREVIEW OF THE MAGAZINE

FROM ALL OF US HERE AT HOMEBREW HEREOES